

5/20

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DART AEROSPACE LTD	Work Order:	22534
Description: Aft Crosstube	Part Number:	D2890
Drawing: D2890 Rev. B; D6008 Rev. A	Qty:	14
		Page 1 of 2

Step	Location	Procedure	By	Date	Qty
1	DC	Issue Traveller Dwg. not required RF 02.11.05	PD	05.02.23	14
2	PG	Issue P/O: 7007638 a) Extrude as per Dwg D6008 length = 180" (Ref. D6008-180) b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11)) Seamless aluminum tube c) Minimum ultimate tensile strength = 77ksi d) Minimum tensile yield strength = 66ksi e) Material certification required		U	05.03.01 14
3	RG	Receive and inspect for transit damage Ensure material certification attached	CD	05/06/10	16
4	QC6	Inspect dimensions as per Dwg D6008 and check 180" length			
5	FP	Acid etch and alodine as per QSI 005 4.1 Inside and outside of tube	PMC	08.7-25	16
6	LG	Bend as per Dwg D2890 and Folio FT002 Sign Page 2			
7	QC6	Inspect dimensions per Dwg D2890 Sign Page 2			
8	LG	Deburr and Polish Sign Page 2			
9	FP	Acid etch and alodine as per QSI 005 4.1 Inside and outside of tube Sign Page 2	U		
10	QC5	Inspect work to Step 9 Sign Page 2			
11	ST	Identify and stock	LL	05.07.01	16
12	AC	Cost / part:	U	06.11.20	16
13	DC	Close W/O Inspect Level 21	PD	08/11/30	16

Rev	Date	Change	Revised By	Approved
A	99.05.31	New Issue, ECN 200	DM	
B	00.04.11	Remove painting step	EC	RF
C	02.10.18	Re-format; Added spec	KJ	RF

RELEASED
02/10/30 RF

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____

PAR #: _____

Fault Category: _____

NCR: Yes

DQA: 

Date: 06/11/30

NOTE: Date & initial all entries

QA: N/C Closed: _____

Date: 

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			Page 2 of 2

W/O Step	A	B	C	D	E	F	G	H	I	J	K	L
6												
7												
8												
9												
10												

RELEASED
02/10/30

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

NOTE: Date & initial all entries QA: N/C Closed: _____ Date: _____

Job Costing Report

Dart Aerospace Ltd.
HawkesburyFeb 23, 2005
08:08 am

Work Order No : 0022534
 Project Name : D2890
 Project For : WK520
 Work Order Type : Main
 Main WO Number :
 House Part Number : D2890
 Description : Aft Crosstube
 Manufactured : Yes
 Amount Req'd : 14
 Amount Done : 0
 Start Date : 02-23-05
 Est Finish Date : 04-28-05
 Act Finish Date :
 Drawings Reqd : No
 Ok for Approval :
 Approval Rec'd :
 Department Code:
 Burden Flags : NNNNNNN
 WO Status : Open
 Invoice State : Not Invoiced
 Invoice Date :
 Invoice Number :
 Invoice Amount : 0.00
 Order Entry No :
 OE Value : 0.00
 Est Margin : 0.000%
 Actual Margin : 0.000%

\$0 Posted to Finished Goods

	Estimated	Actual	Var. %	Posted	To Post
Material Cost	0.00	0.00	0.00	0.00	0.00
Engineering Hours	0.00	0.00	0.00		
Engineering Cost	0.00	0.00	0.00	0.00	0.00
Production Hours	0.00	0.00	0.00		
Production Cost	0.00	0.00	0.00	0.00	0.00
Packaging Hours	0.00	0.00	0.00		
Packaging Cost	0.00	0.00	0.00	0.00	0.00
OverHead Hours	0.00	0.00	0.00		
OverHead Cost	0.00	0.00	0.00	0.00	0.00
CNC Hours	0.00	0.00	0.00		
CNC	0.00	0.00	0.00	0.00	0.00
Misc. Hours	0.00	0.00	0.00		
Misc.	0.00	0.00	0.00	0.00	0.00
Burden	0.00	0.00	0.00		
Total Cost	0.00	0.00	0.00		
Margin	0.000	0.000			
Selling Cost	0.00	0.00			

	Estimated	Actual
Labour Hrs/Amount Done	0.00	0.00
Profits/ (Loss)	0.00	0.00



Abnahmeprüfzeugnis 3.1 - EN 10204:2004

Inspection Certificate 3.1 - EN 10204:2004 / Certificat de Reception 3.1- EN 10204:2004

Kunde: Dart Aerospace Ltd. **Zeugnisnummer:** 296/05
Client: Cert No.: / No. du certificat:

1270 Aberdeen Street
 K6A1K7 Hawkesbury, ON Canada

Bestellnummer: 2007638

Produkt: Tubes seamless extruded **Auftrag:** 13285/2
Product / Produit: Order No. / No. de commande

Spezifikation: AMS - QQA 200/11E; Tol. acc to ASTM B 210

Our Reference/Notre Reference:

Specification:

Werkstoff: 7075 **Zustand:** T 6511
Alloy/Alliage: Temper/Etat

Abmessung 3,250 INCH x 2,374 INCH x 0,438 INCH x 180,000 INCH
Size / Dimension Article D6008-180 3,250" x 0,438" - buff finish

Kennzeichnung ALUnna - Cert No. 296/05 - 7075 - T 6511 - Cast No. 79306 - QQA 200/11E - 3,250" OD X 0,438" Wall - Heat No. 3531 - Lot 13285/2-1 PO: 2007638
Marking/Marquage:

Lieferung pcs. lbs
Delivered Material / Matériel délivré: 16 1142

1. Chemische Analyse

Chemical Analysis / analyse chimique

Charge/ Cast No.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
min.				1,2	2,1	0,18	5,1						
max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
79306	0,108	0,179	1,44	0,032	2,47	0,190	5,94	0,035	0,005	0,029	0,001	0,001	0,007

Elements without indication < 0,01 %

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi		yield (Rp0,2) ksi		elongation 2"	elongation %	A	Hardness	HB			
	min.	max.	min.	max.								
	77,0		66,0									
1	86,565		79,750		9,0			150		3531 - 16 pcs.		
2	86,420		79,605		8,0			153				

Ergebnis der Prüfungen: Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results: We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Résultats: Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

KroosD



Certified acc. to DIN EN ISO 9001:2000, valid until 2006-03-09
 Certificate No.: 001959 QM

10.05.2005

ALUnna
 Abnahmbeauftragter

Packinglist ALUnna AG

Customer PO	PO. 2007638
ALUnna ref. no.	13285/2
Date:	06.21.05

We hereby declare that the wooden packing material are totally free from bark and apparently free from live plant pests.

Boxmarking:

Dart Aerospace PO. 2007638 D 6005-180
Made in Germany
Dest. Hawkesbury ONT. Canada